Abstract

Carbon nanotube growth is achieved in a high-yield process. According to an example embodiment of the present invention, a carbon nanotube device includes a catalyst island, such as Fe_2O_3, and a carbon nanotube extending therefrom. In one implementation, the catalyst island is disposed on a top surface of a substrate. The carbon nanotube device is useful in a variety of implementations and applications, such as in an atomic force microscope (AFM), in resonators (*e.g.*, where a free end of the carbon nanotube is adapted to vibrate) and in electronic circuits (*e.g.*, where the carbon nanotube is electrically coupled between two nodes, such as between the catalyst island and a circuit node). In addition, growing carbon nanotubes with such a catalyst island is particularly useful in the high-yield growth of a large number of nanotubes.